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ABSTRACT

A Conference Role Semantic Differential was developed and field-tested as a brief, diagnostic measure of conference role performance of administrators. Principal components analysis of 52 staff member's evaluations of three institutional researchers yielded one task and three interpersonal skill factors which demonstrated the construct validity of the instrument. Cronbach's Alpha yielded in internal consistency reliability coefficient of .86 for the instrument. Veldman's "relate" procedure indicated substantial stability of factors over one year. After revisions suggested by these analyses, this semantic differential instrument should be helpful in administrator development, contract specification or renewal and salary determination at all levels of education. (Author)

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A SEMANTIC DIFFERENTIAL INSTRUMENT

for

EVALUATING CONFERENCE ROLE PERFORMANCE

of

EDUCATIONAL ADMINISTRATORS

A Paper
Presented to the
1975 Annual Meeting
of the
National Council on Measurement in Education

by

Dr. Alfred R. Hecht, Director
Office of Research and Evaluation

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April 1975

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Abstract

A Semantic Differential Instrument
for
Evaluating Conference Role Performance of Educational Administrators

by

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A Conference Role Semantic Differential was developed and field-tested as a brief, diagnostic measure of conference role performance of administrators.

Principal components analysis of 52 staff member's evaluations of three institutional researchers yielded one task and three interpersonal skill factors which demonstrated the construct validity of the instrument.

Cronbach's Alpha yielded an internal consistency reliability coefficient of .86 for the instrument. Veldman's "relate" procedure indicated substantial stability of factors over one year.

After revisions suggested by these analyses, this semantic differential instrument should be helpful in administrator development, contract specification or renewal and salary determination at all levels of education.

A Semantic Differential Instrument for
Evaluating Conference Role Performance of Educational Administrators

A growing concern for administrator evaluation has accompanied the educational accountability movement. On the basis of a review of the ERIC literature on evaluation, Poliakoff (1973) reported that "by 1968 a growing trend to evaluate school administrators was evident."

Although writers such as Barraclough (1973), McCleary (1973) and Melton (1970) cite the need for development of a variety of measures of increasingly complex administrative roles at all levels of education, according to Barraclough (1973) and Scriven (1974), procedures for evaluating administrative performance are underdeveloped.

In this pilot study, a Conference Role Semantic Differential (CRSD) was developed and field tested as a brief diagnostic measure of this educational leadership role.

Review of Literature

The need for valid and reliable, diagnostic measures of administrator performance was cited by Castetter and Heisler (1971), Rosenberg (1971), and by Wochner and Lynch (1973).

In contrast to the multitude of studies on technical characteristics of faculty performance measures, studies of administrative evaluation lack such characteristics. Instead, they focus on identification of personnel evaluated, frequency of evaluation, evaluation forms or instruments, notification of results and appeal procedures. Stemnock, for example, has reported four studies of administrative performance for the Educational Research Service. Her 1968 study included the formalized evaluation procedures of 62 school systems. Her 1970 report presented the "client-oriented" evaluation procedures of 29 school systems. In 1971, Stemnock's report included evaluation forms of 11 school

systems. These forms were intended to stimulate the thinking of individuals involved in developing procedures for evaluating administrators. In her 1973 report, she summarizes the client-centered-evaluation procedures of 469 school systems. This report includes 10 administrator evaluation forms. In 1973, Napa College described its procedures for evaluating college administrators. However, none of these studies included data on the technical characteristics of any of the instruments presented.

Because of its ability to measure complex concepts by means of a simple format, the semantic differential has been used widely in educational research. In studies of teacher effectiveness, the semantic differential has been shown to possess desirable technical characteristics. For example, Gulo (1972) compared the results of four studies in which the semantic differential was used to evaluate the teaching effectiveness of college professors. He concluded:

- some teacher effectiveness factors are stable across time and populations
- the proportion of variance accounted for by each factor varies across populations and from one factor analysis to another
- the semantic differential seems to be an especially useful technique for quantifying emergent variables associated with student perceptions of teaching effectiveness and effective professors.

In addition to its use in faculty evaluation, the semantic differential has been used in administrator evaluation.

Although no data on its technical characteristics are given, Stemnock's 1970 report included a semantic differential which has been used to evaluate principals in Cheyenne, Wyoming. This instrument, which consisted of 18 adjective and verb-phrase pairs, provides a global assessment of the principal's role.

Procedures

Prompted by the semantic differential used for teacher evaluation of principals in Cheyenne, Wyoming (Stemnock, 1970, p. 42), a Conference Role Semantic Differential (CRSD) (Figure 1, was designed to sample task and interpersonal functions of educational leaders in individual conferences. Seven bi-polar adjective pairs were selected to represent each function. Four adjective-scales were drawn from the Cheyenne instrument. The remainder were drawn or adapted from Osgood (1957, pp. 53-61) using his criteria for scale selection (pp. 78-80).

Item order and adjective polarity were randomized to minimize response bias (Heise, 1970). A seven interval response scale was used with each interval labelled with an adverb to define the scale positions (Wells and Smith, 1960).

Insert Figure 1 about here

In addition to the 14 adjective-scales, the CRSD included two free-response items which asked evaluators to identify strengths and weaknesses in the conference roles performed by the person being evaluated. An unsigned draft CRSD was completed by 52 staff members. In the judgment of three institutional research staff members each evaluator had sufficient conference experience to qualify him for the task. Responses from all 52 individuals were pooled for factor analysis of construct validity (Bashook and Foster, 1973).

On the basis of the factor analysis, factor scores were calculated by summing across the weighted responses for the statements comprising each factor. For each factor and for the entire scale, internal consistency reliability was determined according to Cronbach's Alpha (Yonker, Blixt and Dinero,

1974). In addition, factor stability was determined by applying Veldman's (1967, pp. 242-244) "relate procedure" to the 1972 and 1973 CRSD factor loadings (Bashook and Foster, 1973).

All statistical calculations were performed by an IBM 370 computer using programs TESTAT, FACTOR and RELATE (Veldman, 1967, pp. 174-180, 222-236 and 242-244).

A revised CRSD (Figure 2) was administered one year after the draft scale.

Insert Figure 2 about here

Results

As shown in Table 1, for the draft CRSD, principal components analysis with varimax rotation to simple structure yielded four factors--one task, two interpersonal and one task and interpersonal.

Insert Table 1 about here

In an effort to obtain clearer factors, CRSD was revised by omitting an adjective-scale which loaded almost equally on two factors and by adding three adjective-scales intended to help define three factors. As shown in Table 2 principal components analysis of varimax rotation to simple structure for the revised CRSD yielded one task and three interpersonal factors which accounted for 70 per cent of the variance. The loadings suggested these factor descriptions: Problem-Solving, Tact in Personal Contacts, Accepting Others' Views and Persuasive. These factors are similar to several established by Brown (1967) in his study of job analysis by multidimensional scaling.

Insert Table 2 about here

Although these factors were clearer than those obtained with the draft CRSD, shifts in factor location for some scales indicate a need for further validation on a larger sample.

Internal consistency reliability of CRSD factors ranged from .39 to .91 with the factor comprised of the largest number of items having the largest coefficient. The revised CRSD instrument had an alpha of .86 as shown in the following table.

Internal Consistency Reliability of CRSD

Factor	Number of Items	Coefficient Alpha
Tact in Personal Contacts	7	.91
Accepting Others' Views	4	.64
Persuasive	2	.63
Problem-Solving	2	.39
CRSD	15	.86

N = 52

Factor stability from 1972 to 1973 was established by applying Veldman's (1967) "relate procedure" to maximize the fit between 1972 and 1973 factor solutions. The cosines of the angles between the factors produced in the "relate procedure" are shown in the following table. These cosines can be interpreted in the same way as correlation coefficients between factors.

Stability of CRSD Factors

1972 Factors	1973 Factors			
	1	2	3	4
1	.868	-.221	-.438	.149
2	.118	-.299	.625	.712
3	.496	.534	.579	-.366
4	-.053	.760	-.288	.580

Factor 1 in the 1972 solution is substantially correlated with Factor 1 in the 1973 solution, and these factors are comparatively uncorrelated with the other three factors.

Factors 2 and 4 in these solutions are interchangeable.

Although the third factor in the 1972 solution is related to the third factor in the 1973 solution, the third factor of the 1972 solution is also related to the second factor and somewhat to the first factor of the 1973 solution.

These results indicate a substantial stability of CRSD factors from 1972 to 1973.

The adjective-scale vector correlations shown in Table 3 indicate that the differences in "meaning" of the factors derived in the two analyses are attributable largely to the adjective-scales "Approachable-Unapproachable," "Accurate-Careless" and "Pleasant-Annoying" all of which changed factor locations from one solution to the other.

Insert Table 3 about here

Summary

This pilot study has described the initial development of a Conference Role Semantic Differential (CRSD) as a measure of this role which is common to administrators at all educational levels.

The CRSD reported in this study shows substantial construct validity and a factor structure which accounts for 70 per cent of the common variance. In addition, the CRSD has an acceptable internal consistency reliability of .86 and the general stability of its factors over time has been demonstrated. However, the internal consistency reliability of the factors should be increased by adding related scales to permit diagnostic use of factor scores.

Scale substitutions or modifications should be made, also, to further increase the independence of the factors before this instrument is used widely.

Other limitations of this instrument also reflect its developmental stage. These include:

- Use of only three community college institutional researchers as the sample evaluated.
- Use of only 52 community college staff members as evaluators.
- Lack of norms for interpretation of relative performance.

In spite of these present limitations, refined versions of this instrument should be helpful in staff development, contract renewal and salary determination. Because of the universality of the specific educational role assessed by this instrument, it should be applicable to all levels of administrators at all levels of education.

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FIGURE 1. Conference Role Semantic Differential (Draft)

STAFF EVALUATION OF _____

PART I. Directions: Place an "X" on each line below, at the point which represents your judgment of this staff member.

	Very	Quite	Slightly	No Opinion	Slightly	Quite	Very	
unapproachable								approachable
annoying								pleasant
approving								faultfinding
attentive								inattentive
closed-minded								open-minded
constructive ideas								worthless ideas
impulsive								deliberate
accurate								careless
gets to point								roundabout
superficial								analytical
prompt								slow
ignores problems								solves problems

PART II. Directions: Answer in the spaces below. You may want to describe an incident to illustrate your comments.

1. WHAT CONTRIBUTES MOST TO THIS STAFF MEMBER'S JOB EFFECTIVENESS?

2. IN WHAT WAYS COULD THIS STAFF MEMBER INCREASE HIS JOB EFFECTIVENESS?

FIGURE 2. Conference Role Semantic Differential (Revised)

STAFF EVALUATION OF _____

PART I. Directions: Place an "X" on each line below, at the point which represents your judgment of this staff member.

	Very	Quite	Slightly	No Opinion	Slightly	Quite	Very	
accepting								rejecting
unapproachable								approachable
annoying								pleasant
approving								faultfinding
attentive								inattentive
closed-minded								open-minded
constructive ideas								worthless ideas
impulsive								deliberate
accurate								careless
gets to point								roundabout
superficial								analytical
prompt								slow
ignores problems								solves problems
dictates								persuades
clarifies								confuses

PART II. Directions: Answer in the spaces below. You may want to describe an incident to illustrate your comments.

1. WHAT CONTRIBUTES MOST TO THIS STAFF MEMBER'S JOB EFFECTIVENESS?

2. IN WHAT WAYS COULD THIS STAFF MEMBER INCREASE HIS JOB EFFECTIVENESS?

TABLE 1. 1972 Rotated Factor Loadings for Conference Roles of Institutional Research Personnel

Factors	I. [a]	II.	III.	IV.	Communality
I. Person-Task					
Deliberate--Impulsive	866	- 31	72	315	855
Analytical--Superficial	853	310	89	29	832
Approachable--Unapproachable	741	230	435	- 91	780
Attentive--Inattentive	701	161	79	- 45	525
Cooperative--Uncooperative	536	244	545	- 28	688
II. Problem-Solving					
Accurate--Careless	31	885	-113	225	847
Solves Problems--Ignores Problems	318	865	175	72	886
Constructive Ideas--Worthless Ideas	289	825	287	78	853
III. Tact in Personal Contacts					
Gets to Point--Roundabout	159	42	895	- 84	835
Pleasant--Annoying	- 23	81	714	333	629
Prompt--Slow	378	67	664	339	704
Cooperative--Uncooperative	536	244	545	28	688
IV. Accepting Others' Views					
Approving--Faultfinding	- 28	37	172	923	884
Open-Minded--Closed-Minded	119	402	27	771	771
Per Cent of Total Variance	40	16	13	9	

[a] Leading decimals have been omitted from all factor loadings

TABLE 2. 1973 Rotated Factor Loadings for Conference Roles of Institutional Research Personnel

Factors	I.[a]	II.	III.	IV.	Communality
I. Tact in Personal Contacts					
Gets to Point--Roundabout	908	90	8	140	852
Clarifies--Confuses	854	156	73	280	838
Attentive--Inattentive	851	16	86	129	748
Pleasant--Annoying	841	343	201	116	878
Analytical--Superficial	778	50	237	224	714
Prompt--Slow	530	257	345	366	600
Accurate--Careless	504	18	427	343	555
II. Accepting Others' Views					
Accepting--Rejecting	30	727	17	19	530
Approachable--Unapproachable	438	615	94	87	585
Approving--Faultfinding	80	584	90	514	619
Open-Minded--Closed-Minded	351	562	211	530	764
III. Persuasive					
Persuades--Dictates	36	361	830	16	821
Deliberate--Impulsive	443	137	740	4	762
IV. Problem-Solving					
Constructive Ideas--Worthless Ideas	100	116	163	798	686
Solves Problems--Ignores Problems	291	117	238	606	522
Per cent of Total Variance	32	13	12	13	

[a] Leading decimals have been omitted from all factor loadings

TABLE 3. Adjective Scale-Vector Correlations and Factor Locations

Adjective Scale	r	Factor Location 1972		1973
Approachable--Unapproachable	.501	1		2
Accurate--Careless	.696	2		1
Pleasant--Annoying	.713	3		1
Constructive Ideas--Worthless Ideas	.781	2	=	4
Gets to Point--Roundabout	.793	3		1
Deliberate--Impulsive	.873	1		3
Prompt--Slow	.880	1		3
Approving--Faultfinding	.908	4	=	2
Attentive--Inattentive	.915	1	=	1
Open-Minded--Close-Minded	.922	4	=	2
Analytical--Superficial	.941	1	=	1
Solves Problems--Ignores Problems	.986	2	=	4